

ABSTRACT

A spectrophotometer is provided whereby stable measurement can be performed with high processing rate and high accuracy, in online non-destructive examination of fruit or vegetables or the like using near infra-red light or the like, wherein there is no possibility of saturation of the data level or of the data level being too small and changes in rate of feeding can be dealt with by making use of for example the differences in density, in thickness of the skin, and in size of the fruit or vegetables, which are found even in the same type of fruit or vegetables. Light that has passed through the fruit or vegetables or the like is divided into different spectral components and received at two locations by a main light reception unit and a sample-use light reception unit. First of all, digital comparison operation of a digital value obtained from the sample-use light reception unit with a predetermined reference value is performed and, as a result of this comparison, the gain of a variable gain amplification circuit is set to an optimum value. Then, the signal from the main light reception unit is passed through the variable gain amplification circuit, a zero-point correction circuit and A/D converter, to obtain digital data to be read for obtaining suitable wavelength characteristic data.